Terrorism Salience increases System Justification: Experimental Evidence

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The issue of international terrorism has figured frequently in recent political debates and media coverage. In the present paper, we explore the question of how the salience of the concept of international terrorism affects the system-justifying tendencies of public opinion. On the basis of Terror Management Theory and System Justification Theory it was hypothesized that terrorism salience would lead to increased system justification. Four experiments with student and non-student adult samples support the hypothesis, yielding a medium-sized average effect of $d = 0.47$. Across variations in the intensity of focal death-related thoughts, the effect was not subject to boundary conditions typical of mortality salience effects. Social and political psychological implications are discussed.

KEY WORDS: terrorism; system justification; terror management; ideology.

The recent years have seen an unprecedented wave of large-scale terrorist attacks on targets in the Western world, which most people remember by the mere mention of the dates 9/11/2001 (New York and Washington), 3/11/2004 (Madrid), or 7/7/2005 (London). Although the precise intentions of the terrorists may be irretrievably lost, it seems safe to assume that their aim was not to empower the governments of the targeted countries. Yet, there is evidence to suggest that such events in fact did shift public opinion toward increased support of government authorities, harsh policies, and system-justifying ideologies (e.g., Chanley, 2002; Cohrs *et al.*, 2005; Echebarria-Echabe and

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Fernández-Guede, 2006; Huddy *et al.*, 2002a; Moskalenko *et al.*, 2006; Pyszczynski *et al.*, 2003; White and Cohrs, 2006; Willer, 2004).

Taken together, analyses of public opinion before and after terrorist threats or attacks greatly inform theories of legitimacy and system justification by revealing the political psychological consequences of terrorist acts. However, their reliance on observational data precludes causal generalization beyond what may arguably be called singular events. Experimental research is needed to determine if the salience of international terrorism can indeed cause increased system justification. In this regard, some pioneering research has shown that 9/11 primes lead U.S. American students to provide greater support for G.W. Bush compared with participants in a control condition (Landau *et al.*, 2004, Study 3).

In the present paper, we build on these findings and systematically explore the relationship between terrorism salience and system justification. Given that international terrorism currently is the "leading candidate for Public Enemy Number One" (Weber, 2004, p. 330), it seems possible that the mere salience of the concept increase people's system-justifying tendencies. The assumption of a link between terrorism salience and system justification is implied by two prominent social psychological theories that guided our experimental work. In the next section, we briefly review System Justification Theory (SJT) and Terror Management Theory (TMT) to provide the theoretical background for our research.

SOCIAL PSYCHOLOGICAL PERSPECTIVES ON THE EFFECTS OF TERRORISM SALIENCE

System Justification Theory

The development of SJT was inspired in part by the Marxian idea that the legitimation of highly stratified societies is dependent on some sort of "false consciousness" on the part of the disadvantaged (Jost and Banaji, 1994). While conflict theories in the tradition of Marx and Engels have gone a long way in explaining how stratification systems are initially established (Bonacker, 1996), they are generally considered less effective in explaining how stratification becomes legitimated (Della Fave, 1980). In order to account for these legitimation processes, Jost and colleagues have developed SJT by way of integrating (mostly social psychological) research about intergroup relations, ideology, and justice. For instance, SJT expands on Social Identity Theory (Tajfel and Turner, 1979) by emphasizing that people are not only motivated to evaluate positively their own self and the groups they belong to (the claims of Social Identity Theory) but the superordinate societal system as well.

The system justification motive can in part be explained on the basis of Dissonance Theory (Festinger, 1957), which holds that individuals resolve dissonance between cognitions and actions by changing the cognitive element that can be changed most easily (the one with fewer or weaker connections to other cognitions). For instance, when citizens perceive that the money they make is inconsistent with their expectation that all people are born equal and therefore entitled to receiving equal amounts of pay, Dissonance Theory can be used to predict that they will adjust their fairness perceptions ("I guess I deserve it") rather than rebel against the system of unequal distribution of wealth (for a more detailed discussion of the multiple roots of the system justification motive, see Jost, Banaji and Nosek, 2004; Jost and Hunyady, 2002).

A main thrust of SJT has been to point out that motives of ego, group, and system justification coincide for members of high-status groups but are often conflicting for members of low-status groups. Thus, Jost and colleagues have generated and tested a number of predictions regarding the differential consequences of system justification for members of low-status and high-status groups, respectively (cf. Jost and Hunyady, 2002). For instance, system justification is positively related to self-esteem and well-being among high-status group members and negatively related to self-esteem and well being among low-status group members (Jost and Thompson, 2000), at least for those highly identified with their groups (O'Brien and Major, 2005).

More important for the argument of the present paper, Jost and Hunyady (2002) also hypothesized that people would defend and justify the social system in response to threat in much the same way as they defend and justify their ingroup in response to threats from an outgroup (e.g., Duckitt, 2001; Stellmacher and Petzel, 2005; Tajfel and Turner, 1979). Two published experiments provide empirical support for this hypothesis. One experiment conducted in Israel (Jost *et al.*, 2005, Study 3) showed that a manipulation of system threat (e.g., by telling participants that there is a sense of uncertainty regarding the country's future) increased ingroup favoritism among high-status group members (Ashkenazi Jews) and increased outgroup favoritism among low-status group members (Sephardic Jews), which can be interpreted as manifestations of system-justifying tendencies. Another experiment manipulated threat to the U.S. system (Kay *et al.*, 2005, Experiment 1) and observed increases in attributions of intelligence and independence to the powerful.

Likewise, a recent meta-analysis of correlates of political conservatism hypothesized (and found) that "situations of crisis or instability in society will, generally speaking, precipitate conservative, system-justifying shifts to the political right" (Jost *et al.*, 2003, p. 351). In sum, the claims of SJT are certainly broad enough to include terrorism as a source of threat, insofar as,

by definition, terrorism threatens the stability and legitimacy of existing social, political, and economic systems.

Terror Management Theory

Terror Management Theory (TMT, e.g., Greenberg *et al.*, 1997) is another important theoretical framework from which hypotheses can be derived regarding the effects of terrorism salience on system justification. TMT is based on the idea that humans share with other animals a predisposition to survive but are uniquely self-conscious of the inevitability of death. This self-consciousness is assumed to create the potential for existential terror. To prevent the experience of existential terror, humans have built and subscribe to cultural worldviews implying order, permanence, and stability. The two most basic assumptions of TMT are that reminding people of their finite existence (mortality salience; MS) will elicit potential existential terror, and that self-esteem and faith in the cultural worldview serve to alleviate this fear of death. As a manipulation of MS, a typical TMT study asks participants to think of their own death and describe their feelings. A typical measure of worldview defense is American participants' ratings of pro-American and anti-American essays. Under the condition of high MS, TMT researchers find ratings of pro-American essays elevated and ratings of anti-American essays reduced (cf. Greenberg *et al.*, 1997).

Research on TMT is filled with examples of naturally occurring death reminders such as funeral homes (Jonas *et al.*, 2002) and fatal car accidents (Nelson *et al.*, 1997). And, indeed, the events of September 11, 2001, have been portrayed as a ''natural'' MS induction which not only exposed the fatal vulnerability of the American security system but also produced literal depictions of death in the media (Ochsmann, 2002; Pyszczynski *et al.*, 2003). Furthermore, recent research conducted with U.S. student populations has provided evidence for the equivalence of subtle reminders of September 11 and traditional MS inductions in terms of their ability to increase support for U.S. President G.W. Bush (Landau *et al.*, 2004) and actual intentions to vote for Bush in the 2004 election (Cohen *et al.*, 2005). All of these lines of research support the notion that terrorism salience belongs to the class of stimulus conditions that should increase worldview defense.

RESEARCH OVERVIEW

As our review of SJT and TMT indicates, both theories converge on the prediction that terrorism salience (TS) will increase system justification tendencies. The research presented below will directly examine this

prediction, elaborating on and extending previous findings obtained by SJT and TMT researchers. On one hand, research inspired by SJT has shown that increased system justification can be observed under conditions of system threat, but it did not examine international terrorism as a specific threat. On the other hand, research inspired by TMT has examined the effects of 9/11 primes, but focused only on presidential support as a dependent variable. As discussed by Echebarria-Echabe and Fernández-Guede (2006, p. 264), support for the status quo in general and support for specific government authorities — although related — do not necessarily imply one another (cf. Easton, 1975), and in the case of the Madrid terror attacks these two types of responses did not in fact coincide in the Spanish population.

We conducted four experiments that compared system justification tendencies of German research participants either thinking about international terrorism or not. Across experiments, we reminded different types of participants (student as well as general population participants) of different terrorist attacks (Madrid, New York, and an alleged plot of terrorist attacks on British airplanes) and assessed their support for the status quo (Studies 1–4) and the accessibility of death-related thoughts (Study 3). We also varied the extent of thought about terrorism required of participants (agreeing or disagreeing with Likert items about terrorism or reflecting on the possibility of one's own death), the temporal proximity of data collection to the date of the respective attacks, and the type of control condition. All these variations have the potential to shed light on the processes involved in the effects of TS. Since these studies are essentially the first to address the effect of TS on system justification, theoretical interest also centers on the estimate of the population effect size that these studies provide as a set, so we conclude with a meta-analytic summary of our experiments.

STUDY 1

The first study was conducted in Germany during the week following the 3/11/04 terrorist attacks on four passenger trains commuting during Madrid's morning rush hour. Our goal was to obtain a first estimate of the effect of TS on system justification.

Method

Participants and Design

Participants were recruited in various waiting areas at a large German airport two to four days after the attacks. They were invited to participate in

a "monthly survey on current social issues" conducted by Philipps University Marburg. A total of 81 persons participated in the study and were randomly assigned one of two versions of a questionnaire. After removing participants who indicated a citizenship other than German, there remained 38 persons (19 women, 18 men, one person did not report his or her sex) in the TS group and 40 persons (16 women, 24 men) in the control group. The age range was 20 to 64 years with a median of 41 years. Fifty-four percent of participants had a university degree. Preliminary analyses revealed that none of these demographic variables interacted with the experimental manipulations in this study (nor in any of the studies reported in this article), so they were dropped from analyses.

Materials and Procedure

In the TS condition, the first sentence on the second page of the questionnaire read (in bold print): "After the terror attacks in Madrid with approximately 200 fatal casualties, we are especially interested to hear your opinion on the issue of 'international terrorism'." Then, participants were asked to indicate their agreement or disagreement with the following six items, the sole purpose of which was to make the issue of international terrorism salient:[4] (1) "International terrorism will soon hit Germany, too," (2) "The risk of terror attacks in Germany is low," (3) "German politicians neglect the risk of terror attacks," (4) "Muslims bring the middle-east conflict to Germany," (5) "Islam represents a special threat," (6) "Since 9/11 2001 I use an airplane only if absolutely necessary."

In the control condition, the first sentence on page two of the questionnaire read (in bold print): "Now we have some more questions for you about food, discount airlines and society." Next, participants were asked to indicate their agreement or disagreement with the following six items broaching issues of risk and danger unrelated to terrorism: (1) "These days BSE [i.e., Bovine Spongiform Encephalopathy or 'Mad Cow Disease'] is not a problem anymore," (2) "When cooking beef I don't worry about BSE anymore," (3) "Eating organic beef is very important to me," (4) "Discount airlines like RyanAir and AirBerlin are an interesting alternative to established airlines," (5) "Flying with Lufthansa or flying with RyanAir is all the same to me as long as the price is alright," and (6) "If they offered the same price I would rather fly with Lufthansa than with a discount airline."

Except for the heading and the first six items on the second page, both versions of the questionnaire were identical. The first page gave examples of how to use the 6-point rating scales anchored with "completely agree"

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[4]The original material in German language is available from the first author.

(coded 6) and "completely disagree" (coded 1). On the second page, directly following the manipulation, participants completed a German translation of Kay and Jost's (2003) system justification scale (e.g., "In general you find society to be fair", "In general the German political system operates as it should", for the other items see Appendix). One item ("Germany is the best country in the world to live in") exhibited very low intercorrelations. Removing this item yielded a sufficiently internally consistent scale (Cronbach's $\alpha = 0.69$). Responses to the remaining seven items were averaged to yield an index of system justification.

Care was taken that participants filled out their questionnaire individually. At the end of the experiment, participants were debriefed and offered the opportunity to receive further information by e-mail when the study would be completed.

Results and Discussion

To assess the effect of TS on system justification, a t-test was conducted comparing the system justification means in both conditions. Participants in the TS condition showed higher system justification tendencies ($M = 3.17$, SD = 0.89) than participants in the control condition ($M = 2.70$, SD = 0.75), $t(76) = 2.56$, $p = 0.01$, which represents a medium effect size[5] ($d = 0.57$). Thus, results of Study 1 provide support for the prediction derived from SJT and TMT that TS can increase system justification. One may wonder, however, if this increase is due to heightened MS, as would be suggested by a terror management analysis of terrorism (Jost and Hunyady, 2005; Landau *et al.*, 2004; Pyszczynski *et al.*, 2003).

This question can be addressed on the basis of the known boundary conditions of MS effects. As mentioned above, TMT predicts worldview defense to occur when death-related thoughts are highly accessible but are outside of focal attention. This prediction is informed by empirical research showing that worldview defense is stronger after a subtle (rather than a deeper) induction of MS (e.g., Greenberg *et al.*, 1994). Furthermore, it has been demonstrated that worldview defense only occurs if people are distracted after the subtle MS induction, or when a subliminal induction of MS is used, or when participants are put under cognitive load during the MS induction (e.g., Arndt *et al.*, 1997a; Arndt *et al.*, 1997b).

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[5]All effect sizes d reported in this paper refer to the bias-corrected standardized mean difference (Hedges and Olkin, 1985) with positive values indicating more system justification in the experimental group compared with a control group. In describing effect sizes, we use the nomenclature of Cohen (1992) who suggested that a medium effect ($d = 0.5$) would be "visible to the naked eye of a careful observer" (p. 156).

Thus, it may be speculated that our TS manipulation was subtle enough to prevent thoughts of one's mortality from reaching focal attention, or that the busy experimental environment (i.e., a large airport) reduced cognitive resources that could have been employed to suppress death-related thoughts. In order to better understand the role of MS in bringing about the effect of TS on system justification, we manipulated two of the established boundary conditions of MS effects in Studies 2 and 3. In Study 2, we began this exploration by adding a less subtle TS condition in which participants were asked to imagine being a victim of terrorist attacks. If what is being manipulated in our TS manipulation corresponds to the standard MS manipulation, we should observe a weaker effect on system justification in the less subtle condition.

Another ambiguity inherent to our experimental procedures is whether the observed mean difference in system justification is really driven by TS or rather by the control condition. It is possible (though perhaps less likely) that thinking about BSE and discount airlines *reduces* system justification. To rule out this possibility, we decided to use a different control condition in Study 2.

STUDY 2

As in Study 1, we sought to increase the plausibility of our TS manipulation by referencing it to current events. Therefore, we collected all data on 9/11/2004, which allowed us to use the anniversary of the terrorist attacks on the World Trade Center and the Pentagon as a natural cover story.

Method

Participants and Design

Participants were recruited in public trains and waiting areas at train stations in Frankfurt, Munich, and Berlin, Germany. As in Study 1, the survey was described to participants as a "monthly survey on current social issues" conducted by Philipps University Marburg. A total of 155 persons participated in the study and were randomly assigned to read one of four versions of a questionnaire, which resulted from crossing the TS vs. control factor of Study 1 with a depth of manipulation factor (subtle vs. deeper). After removing four participants who indicated a citizenship other than German, there remained 43 persons (23 women, 20 men) in the subtle control condition, 40 persons (16 women, 24 men) in the deeper control

condition, 35 persons (16 women, 19 men) in the subtle TS condition, and 33 persons (18 women, 15 men) in the deeper TS condition. The age range was 18 to 78 years with a median of 30 years. Thirty-eight percent of participants had a university degree.

Materials and Procedure

The basic setup of the questionnaire was the same as in Study 1. At the top of the second page, participants were confronted with different items or instructions, depending on the experimental condition. Everything else was identical across conditions.

In the subtle TS condition, the first sentence on the second page read (in bold print): "On the occasion of the anniversary of the 9/11 terror attacks we are especially interested to hear your opinion on the issue of 'international terrorism.'" Participants then responded to the same set of Likert items about terrorism that were used in Study 1, except that items (2) and (6) were dropped to make the manipulation even more subtle.

The deeper TS condition had all of the features of its subtle counterpart, but was complemented by the following instruction: "Since the terror attacks in Madrid, people in Europe are increasingly thinking about the possibility of being personally affected by a terrorist attack. Please briefly put yourself in the situation that you are in danger of death due to a terrorist attack. Which thought first crosses your mind?" Participants were provided three lines to jot down their thoughts.

The subtle and deeper control conditions were designed to mirror the subtle and deeper TS conditions at the procedural level. In the subtle control condition, participants read (in bold print): "A survey of the ARD [i.e., a public TV station] indicates that in the summer of 2004 more than half of German citizens used the internet. What is your opinion on this?" Then, participants responded to the following four Likert items: (1) "The internet makes shopping a lot easier for me," (2) "I save a lot of time thanks to the internet, because I can access important information fast," (3) "I find internet advertisement clearly less annoying than TV advertisement," (4) "The internet is so versatile that I haven't yet discovered all of its advantages."

In the deeper control condition, participants then received instructions to brainstorm about ways to make the internet more popular among people currently not using it, so that a possible effect of brainstorming in the deeper TS condition could be controlled for. The instructions were: "However, almost 45% of Germans older than 14 years still don't use the internet. In your opinion, how could the internet be made more attractive to those people?" Participants were provided three lines to jot down their ideas.

Finally, all participants responded on 6-point scales to the same eight system justification items that were used in Study 1. These items were introduced as "opinions about the Federal Republic of Germany." In the interest of comparability with Study 1, the item "Germany is the best country in the world to live in" was removed from analyses. An index of system justification was obtained by averaging responses over the remaining seven items (Cronbach's $\alpha = 0.70$).

Care was taken that participants filled out their questionnaires individually. At the end of the experiment, participants were debriefed and offered the opportunity to receive further information by e-mail when the study would be completed.

Results and Discussion

System justification scores were subjected to a 2 (TS vs. control) x 2 (subtle vs. deeper manipulation) ANOVA (see Table 1 for the means and standard deviations). This analysis revealed a significant main effect of TS, $F(1,147) = 5.28$, $p = 0.02$. Replicating the finding obtained in Study 1, participants in the TS conditions exhibited more system justification ($M = 3.33$, SD = 0.78) than did participants in the control conditions ($M = 3.06$, SD = 0.71), which corresponds to a small to medium effect size, ($d = 0.37$). The fact that the effect of TS could be replicated using a different control condition reduces the plausibility of the alternative explanation that something about the control condition lowers participants' system justification tendencies. More evidence for the validity of our claim that TS *increases* system justification will be presented in Study 4.

A further goal of Study 2 was to explore whether the TS effect was subject to the same boundary conditions as standard MS effects. If MS was at least partially responsible for the observed increase in system justification, then the effect should be weaker for participants in the deeper TS condition. However, apart from the main effect of TS, no other effects were revealed by the ANOVA. Contrary to our expectations, the effect of the deeper TS manipulation ($d = 0.58$) was stronger than that of the subtle TS manipulation ($d = 0.18$), although this interaction was not significant, $F(1,147) = 1.44$, $p = 0.23$.

Table 1. Means (Standard Deviations) of System Justification in Study 2

Experimental Conditions			
Subtle Control	Deeper Control	Subtle TS	Deeper TS
3.10 (0.81)	2.98 (0.66)	3.30 (0.80)	3.42 (0.72)

Note. TS = Terrorism salient, Control = Internet salient

These findings are inconsistent with our initial assumption that the salience of terrorism would increase system justification by reminding people of their mortality. Before dismissing this interpretation, however, we should consider the possibility that even the deeper TS manipulation did not suffice to bring participants' mortality fully to their attention, which would explain the immediate effect on system justification. Although the deeper TS manipulation asked participants to explicitly reflect the possibility of dying due to a terrorist attack, it should be kept in mind that Studies 1 and 2 were conducted under relatively noisy field conditions (i.e., in an airport or train station environment), which could have reduced participants' mental capacity to suppress the emerging thought of one's death or to carefully process the instruction in the first place. In line with this argument, previous field studies have found MS effects in the absence of explicit distraction or delay (e.g., Jonas *et al.*, 2002; Pyszczynski *et al.*, 1996).

Therefore, we deemed it desirable to replicate the findings of the present experiment in a controlled laboratory setting. If the above reasoning is correct, our TS manipulations are likely to be processed with more conscious attention in a laboratory setting, and the deeper TS condition is likely to produce a weaker effect on system justification than the subtle TS condition.

STUDY 3

This study instantiated the same experimental and control conditions that were used in Study 2, but took place in a laboratory setting with undergraduate students tested one at a time in October and November 2004. One additional condition involved the deeper TS manipulation followed by a delay before the measurement of system justification. Based on previous research on the boundary conditions of MS effects (e.g., Greenberg *et al.*, 1994, Study 3), we expected that although deeper TS should have a weaker effect on system justification, this effect should become stronger after a delay during which participants would be distracted.

In Study 3, we also considered the possibility that the nature of our TS manipulations prevents thoughts of one's mortality from reaching conscious awareness even in a controlled laboratory setting, for this would also explain the immediate effects on system justification that were obtained in Studies 1 and 2. If this were the case, we should observe immediate increases in death-thought accessibility in response to the TS manipulations (Arndt *et al.*, 1997a; Arndt *et al.*, 1997b). Alternatively, if a controlled laboratory setting provides for conscious processing of the TS manipulations, an increase in death-thought accessibility should only emerge after a distraction.

Method

Participants and Design

Seventy-two undergraduate students from Philipps University in Marburg were recruited for ''a series of pretest studies from social, cognitive, and personality psychology'' and randomly assigned to one of five experimental conditions (subtle and deeper control, subtle and deeper TS, deeper TS plus distraction). Only participants of German nationality were retained for analyses, which left 13 participants (9 women, 4 men) in the subtle control condition, 14 participants (11 women, 3 men) in the deeper control condition, 13 participants (8 women, 5 men) in the subtle TS condition, 11 participants (9 women, 2 men) in the deeper TS condition, and 11 participants (8 women, 3 men) in the deeper TS plus distraction condition. The age range was from 18 to 25 years with a median of 21 years.

Materials and Procedure

In keeping with the cover story of ''different pretest studies'', participants received their materials in four separate steps and worked on them alone in a quiet room. For all participants, except those in the deeper TS plus distraction condition, the experiment began with the Marburg Agentic Extraversion (MAE) questionnaire (Stemmler, 2002), which is a 30-item questionnaire based on the MPQ scales for well-being, social potency, and achievement (Tellegen and Waller, in press). The MAE served as a filler task for participants in the deeper TS plus distraction condition who were given the measure after the TS manipulation, whereas all other participants completed the measure at the start of the experiment to control for a possible effect of merely completing this measure.

Next, all participants received the critical TS or control sections from the questionnaire of Study 2. The only difference was that in lieu of the reference to the anniversary of 9/11, the first sentence on the page read: ''Due to current news we are interested in your opinion on the issue of 'international terrorism.'''

After the manipulation, participants either proceeded directly to a word-fragment completion task or filled out the MAE. The word-fragment completion task was designed to measure the accessibility of death-related cognitions (see e.g., Greenberg *et al.*, 1994). Eight of the 26 fragments could be completed with either a death-related word or a neutral word. For example, participants saw the fragment T _ _, which could be completed with the words TOD or TOT [death or dead in English] or, for instance, TEE [tea]. The other possible death-related or neutral terms were _ O R _ (Mord

[murder] or Wort [word]), S A _ _ (Sarg [coffin] or Samt [velvet]), B L _ _ (Blut [blood] or blau [blue]), T R A U _ _ (Trauer [grief] or trauen [dare]), _ _ _ _ S T E I N (Grabstein [tombstone] or Edelstein [gem]), L E I C _ _ (Leiche [corpse] or leicht [easy]), G R _ _ (Grab [grave] or grau [grey]). An index of death-thought accessibility was obtained by counting the number of word-fragments completed with a death-related word.

Finally, participants completed the eight-item system justification scale that was used in the previous experiments. As before, this scale was introduced as "opinions about the Federal Republic of Germany." Averaging responses over all items (except the problematic one, see above) yielded an index of system justification that was acceptably internally consistent (Cronbach's $\alpha = 0.74$). Upon completion of the experiment, participants were debriefed and received their laboratory credit points.

Results

System Justification

A one-way ANOVA of system justification scores yielded a marginally significant overall effect, $F(4,57) = 2.28$, $p = 0.07$ (see Table 2 for the means and standard deviations). In order to test our hypotheses about the ordering of means across experimental conditions, we conducted a series of planned contrasts. We initially established that the subtle and deeper control conditions did not differ from each other, $t(57) = 0.28$, $p = 0.78$. Hence, we used both control conditions combined ($M = 3.00$, $SD_{pooled} = 0.59$) as our baseline for assessing the effects of TS.

First, we analyzed to what extent the TS manipulations produced a pattern of results comparable to standard MS manipulations. Our expectation was to find a stronger effect of the subtle TS manipulation compared

Table 2. Means (Standard Deviations) of System Justification and Death-Thought Accessibility in Study 3

	Experimental Conditions				
Dependent Variable	Subtle Control	Deeper Control	Subtle TS	Deeper TS	Deeper TS plus distraction
System Justification	2.97 (0.54)	3.04 (0.63)	3.17 (0.86)	3.62 (0.68)	2.82 (0.64)
Accessibility of death- related thoughts	1.15 (1.07)	0.79 (0.70)	0.85 (0.80)	0.91 (0.83)	1.36 (1.29)

Note. TS = Terrorism salient, Control = Internet salient

with the effect of the deeper TS manipulation, which in turn should be smaller than the effect of the deeper TS plus distraction manipulation. We first tested if system justification was higher in the subtle TS condition compared with the baseline. Although there was a tendency for system justification to be higher in the subtle TS condition, this effect was small ($d = 0.24$) and non-significant, $t(57) = 0.70$, $p = 0.49$. In contrast, participants in the deeper TS condition exhibited significantly more system justification compared with the baseline, $t(57) = 2.55$, $p = 0.01$, which corresponded to a large effect size ($d = 1.01$). Contrary to our expectation, the deeper TS condition also elicited more system justification than the subtle TS condition ($d = 0.57$), although this contrast was not significant, $t(57) = 1.65$, $p = 0.10$. Next, we compared the deeper TS plus distraction condition against the baseline and the deeper TS without distraction condition. Surprisingly, system justification scores in the deeper TS plus distraction condition turned out to be even somewhat lower than the baseline ($d = -0.29$), although this was not significant, $t(57) = 0.77$, $p = 0.45$. As might be expected given the previous results, deeper TS elicited significantly less system justification after distraction than without distraction, $t(57) = 2.78$, $p = 0.01$.

Finally, we excluded the deeper TS plus distraction condition from the design so as to be able to compare the results with those obtained in Study 2. We ran a 2 (TS vs. control) $\times$ 2 (subtle vs. deeper manipulation) ANOVA on system justification scores. As in Study 2, the strongest effect to emerge from this analysis was a main effect of TS, $F(1,47) = 4.09$, $p = 0.05$, reflecting the higher levels of system justification under TS, compared with the control conditions. The medium overall effect size ($d = 0.56$) is consistent with results of Studies 1 and 2. Also in line with Study 2, the main effect of depth of manipulation, $F(1,47) = 1.90$, $p = 0.17$, and the interaction of TS and depth of manipulation, $F(1,47) = 1.00$, $p = 0.32$, were smaller and non-significant.

Death-Thought Accessibility

The results reported above imply that TS can increase system justification without conforming to the boundary conditions of standard MS effects. However, it is possible that our TS manipulations increased death-related thoughts outside of participants' focal attention. In order to test this idea, we first conducted a one-way ANOVA comparing death-thought accessibility scores across all experimental conditions. This analysis revealed no significant differences, $F(1,57) = 0.78$, $p = 0.54$. If MS is the active component in our TS manipulations, the pattern of means for death-thought accessibility should mirror the pattern obtained for system justification.

However, inspection of means (see Table 2) suggests that death-thought accessibility scores followed a rather erratic pattern. Indeed, a 2 (TS vs. control) × 2 (subtle vs. deeper manipulation) ANOVA of death-thought accessibility scores revealed no significant effects (all $F_s < 1$). More specifically, accessibility scores were slightly lower in the TS conditions compared with the control conditions, $F(1,47) = 0.15$, $p = 0.70$.

Discussion

This study replicated the TS effect on system justification under controlled laboratory conditions but again found no indication of MS being involved. Contrary to what has been found in MS studies (e.g., Arndt *et al.*, 1997b; Greenberg *et al.*, 1994), the present results suggest that deeper processing of TS increases (rather than decreases) its immediate effect on system justification and that this effect decreases to baseline levels (rather than increases) after a short delay. Furthermore, we found no evidence of an increased accessibility of death-related cognitions among TS participants, which is at odds with previous research reporting an increase of such cognitions in response to 9/11 primes (Landau *et al.*, 2004, Study 2).

Perhaps this inconsistency can be better understood by considering the differences between the samples investigated in the present research and those investigated by Landau and colleagues. TS may be less likely to be accompanied by MS among German research participants for the obvious reason that there have not been any terrorist attacks of a comparable nature in Germany. Possibly it is more difficult for German participants to conceive of a situation where their life would be threatened by terrorist attacks. In contrast, 20% of Americans said in September 2001 that they, or someone in their family, knew someone who was missing, hurt, or killed in the 9/11 attacks (cf. Huddy *et al.*, 2002b).

Nevertheless, the present findings demonstrate that reminding people of international terrorism can increase their system justification tendencies without necessarily evoking thoughts about death. Thus, the pattern of results obtained in Studies 1–3 invites us to view the increases in system justification as a defensive reaction to the threat posed by international terrorism to system stability and legitimacy (cf. Jost and Hunyady, 2002). It may be argued, however, that because all of the TS manipulations used in Studies 1–3 contained references to Muslims and Islam, TS may have been confounded with threats from an outgroup which are known to lead to increased ingroup solidarity (e.g., Campbell, 1965). In Study 4, we therefore dropped these references to an outgroup and framed the system justification measure as opinions about "Western society" instead of the "Federal Republic of Germany." In order to further probe the robustness of the TS effect, we changed yet another constant of the previous studies. So far, we

have compared TS against different supposedly neutral control manipula-
tions, but it is still debatable if TS increased system justification or the
control conditions reduced it. In our final study, we therefore relied on an
entirely different TS manipulation.

STUDY 4

On August 10, 2006, the morning news in Europe featured a shocking
story. Whereas the story was too recent to appear in the newspapers of the
day, TV and radio stations and the internet informed people that the British
authorities had just arrested several people suspected of plotting large-scale
terrorist attacks on airplanes with destinations in the U.S. We took this
opportunity to measure system justification tendencies before and after
relating this news to people who might not even have heard of it before.

Method

Participants and Design

Fifty-five train passengers were interviewed in waiting areas at the
central railway station in Frankfurt/Main, Germany, between 2 and 7 pm.
The interviewers were one male and one female student who randomly
picked one of two versions of a questionnaire. Only participants of German
nationality were retained, which left 26 participants in the control condition
(12 women, 14 men) and 24 participants in the TS condition (13 women, 11
men). The age range of the sample was from 16 to 83 years with a median of
31 years. Twenty-two percent of participants had a university degree.

Materials and Procedure

All participants were asked to participate in a short survey conducted
by Goethe University Frankfurt. Depending on experimental condition, the
topic of the survey was declared either as ''International Terrorism'' or ''Do
people in the West get what they deserve?''

In the TS condition, participants were first asked if they had heard of
the alleged plot to blow up British airplanes. In case they had not heard of
the news, the interviewer read them the following short paragraph, which
was taken from the webpage of the German weekly *Der Spiegel*: ''Scotland
Yard has foiled the largest terror attacks since 9/11/2001: Terrorists wanted
to blow up several airplanes on their way from Great Britain to the U.S.
Apparently, the terrorists planned to use liquid explosives. The police
arrested numerous suspects. The British foreign minister said that England
would currently experience the biggest threat since World War II.''

Then, TS participants were told that the interviewer would shortly return to this issue. Before that, he or she would read them several statements, and participants were asked to indicate their agreement or disagreement on a scale from 1 to 6. The interviewer said that these statements would all deal with the general question "if people in the West get what they deserve." The statements were the seven items from the system justification scale used in Studies 1–3, except that they were modified so as to refer to "Western society" or "the West" instead of "Germany." In keeping with the cover story, participants were then asked two open-ended questions about international terrorism.

In the control condition, participants were immediately presented with the system justification statements. Afterwards, they were asked if they had heard of the alleged plot to blow up British airplanes, read the short news paragraph in case they had not heard about it, and asked two open-ended questions about international terrorism. Finally, all participants were debriefed and thanked for their participation.

Results and Discussion

The seven system justification items were averaged to yield an internally consistent index of system justification (Cronbach's $\alpha = 0.82$). Preliminary analyses revealed that the percentages of participants who had heard of the news before the survey (62% in the control condition, 54% in the TS condition) did not differ between conditions, $\chi^2(1) = 0.28$, $p = 0.60$. In order to examine if TS interacted with knowledge of the alleged terrorist plot, we ran a 2 (TS vs. control) $\times$ 2 (heard the news before or not) ANOVA on system justification scores. This analysis revealed negligible effects of prior knowledge and the interaction of TS with prior knowledge (Fs < 0.05). Therefore, we dropped the prior knowledge variable and compared system justification means across conditions using a t-test.

Consistent with our hypothesis, system justification was higher in the TS condition ($M = 3.61$, SD $= 0.82$) than in the control condition ($M = 3.28$, SD $= 0.97$). Although this small effect ($d = 0.36$) was not significant in this rather small sample, $t(48) = 1.29$, $p = 0.20$, the direction of the effect lends some additional support to our claim that TS increases system justification in the absence of explicit references to threatening outgroups. Viewed in conjunction with the effects obtained in Studies 1–3, the present finding also increases our confidence that the causal agent of the TS effect is in fact the TS manipulation rather than something about the control condition. Nevertheless, given our inability to conclusively reject the null-hypothesis of no difference, we should not overinterpret the result of Study 4 but rather view it as part of the bigger picture. Accordingly, we integrated the effects of Studies 1–4 within a small meta-analysis.

META-ANALYTIC SUMMARY OF STUDIES 1–4

Even though the studies reported above have generally provided support for the hypothesized effect of TS on system justification, future theorizing and planning of further studies will benefit from a more precise estimate of the TS effect as can be obtained by synthesizing results across studies. Thus, we calculated the average effect size weighted by the inverse of the variance (Johnson and Eagly, 2000). In order to avoid dependencies between effect sizes in Studies 2 and 3, we used the overall effect of TS vs. control as revealed by the ANOVAs.

Combining effect sizes across studies ($N = 330$), we obtained an overall effect size of $d = 0.47$, which corresponds to a medium effect. Figure 1 displays the effect sizes of Studies 1–4 along with the overall effect. Vertical bars represent the 95% confidence intervals. The confidence interval for the overall effect size indicates that plausible values for the TS effect are between $d = 0.25$ and $d = 0.69$.

GENERAL DISCUSSION

The present research has demonstrated that thinking about international terrorism can increase people's proclivity for system justification. This
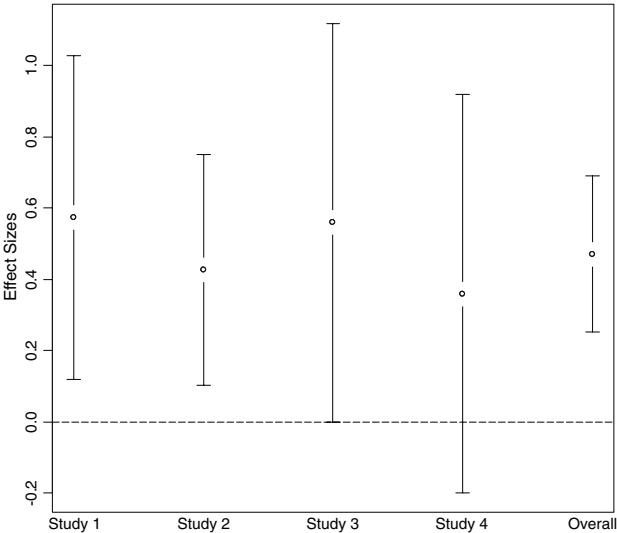
Fig. 1. *Effect Sizes for Terrorism Salience Effects on System Justification across Studies 1–4. Note.* Positive values of the bias-corrected effect size Hedges' *d* indicate that system justification was higher in the terrorism salience group relative to a control group. The error bars represent the 95% confidence intervals for the population effect size.

effect was robust across four experiments exposing a wide range of general population participants to diverse terrorism-related stimuli. Although the recent wave of terrorist attacks has been claimed to produce a large array of system-justifying responses such as support for government authorities (Chanley, 2002; Huddy *et al.*, 2002a; Willer, 2004), conservatism (Echebarria-Echabe and Fernández-Guede, 2006; Pyszczynski *et al.*, 2003), and country identification (Moskalenko, *et al.*, 2006), these claims were based on observational data which allow only weak causal inferences. Thus, the present research nicely complements these previous studies by providing evidence that the link between salience of terrorism and system justification can indeed be regarded as causal.

In fact, a highly related study has also provided experimental evidence for TS effects and its equivalence to typical MS effects (Landau *et al.*, 2004). Participants in this study who were instructed to imagine the events of 9/11 exhibited increased support for G.W. Bush relative to a control condition in which they imagined an upcoming exam. A critical issue raised in this study was if this effect would be specific to charismatic leaders (cf. F. Cohen *et al.*, 2004) or would generalize to other government authorities and system-justifying responses at large. Thus, the TS effects on general system justification obtained in the present research would help to dispel this concern.

Nonetheless, the results of Studies 2 and 3 suggest that equating TS with MS may in general be misleading. Specifically, we observed that the TS effect was stronger after a deeper manipulation of TS and disappeared after a short delay, which is inconsistent with predictions of TMT (e.g., Pyszczynski *et al.*, 1999). In light of the fact that our TS manipulations did not produce systematic increases in death-related cognitions, we may now refine the theoretical analysis of the political psychological impact of terrorism offered in the introduction. It seems that TS effects brought about by MS and system threat can occur independently and at different levels of conscious awareness. We submit that the differences in manipulations and research populations between our research and that of Landau and his colleagues do not allow us to be conclusive on this point. At any rate, the present findings serve to caution us against extrapolating from terror management to terrorism management. Disentangling the processes of defending the legitimacy of a system in response to different types of threat clearly merits further research. In this regard, it is instructive to consider that SJT posits distinct motives of ego, group, and system justification (Jost *et al.*, 2001). Thus, one promising direction for future research is to examine which motives are aroused by TS in different populations.

Adopting an applied perspective, we hasten to add that such research would have considerable implications for understanding events in the political arena. For instance, the present research suggests that politicians can use subtle references to international terrorism to increase system

legitimacy and public acceptance of the status quo, which may have beneficial consequences for governing parties entering into elections. Our results help to understand why U.S. President G.W. Bush has been said to have kept "the entire country in crisis mode for close to 5 years" (Matsaganis and Payne, 2005, p. 387). To conclude, it is important to recognize that system justification is fundamentally different from a just system (for an elaboration of this point, see Simmons, 1999). We maintain that information about potential terrorist threats does not actually make a system more legitimate in a normative sense. Thus, public awareness of the processes exposed in the present research may help people to more rationally judge the justifiability of the system they are living in.

ACKNOWLEDGMENTS

APPENDIX

Items of the German version of Kay and Jost's (2003) system justification scale

1. In general you find society to be fair (Im allgemeinen finde ich die Gesellschaft fair.)
2. In general the German political system operates as it should (Im allgemeinen funktioniert das politische System Deutschlands, wie es sollte.)
3. German society needs to be radically restructured (Die deutsche Gesellschaft muss radikal umstrukturiert werden.) / Reverse scored
4. Germany is the best country in the world to live in (Deutschland ist das beste Land der Welt, um darin zu leben.)
5. Most policies serve the greater good (Die meisten politischen Entscheidungen dienen dem Wohle aller.)
6. Everyone has a fair shot at wealth and happiness (Alle Menschen haben faire Chancen, Glück und Wohlstand zu erlangen.)
7. Our society is getting worse every year (Unsere Gesellschaft verschlechtert sich Jahr für Jahr.) / Reverse scored
8. Society is set up so that people usually get what they deserve (In unserer Gesellschaft bekommen Menschen für gewöhnlich, was sie verdienen.)

Note. Due to low item-total correlations, item 4 was deleted in all studies reported in this paper.

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